PRIMUS®

MultiFuel Stove

Part No. 328894

User Manual and Product Specifications

IMPORTANT
Read instructions before operation.

PRIMUS®

Instuctions for use

IMPORTANT: Read these instructions carefully before connecting the appliance to the gas cartridge or liquid fuel bottle. Study the instructions at regular intervals to remain familiar with the operation of the appliance and keep them for future reference. **Failure to follow these instructions may result in serious injury or death!**

CAUTION: This appliance consumes air (oxygen) and produces carbon dioxide. To avoid danger to life, **NEVER** light or use the appliance in an unventilated space, indoors, in a tent, in a vehicle or In any other enclosed area.

Use outdoors only!

NEVER cover the stove (gas cartridge or liquid fuel bottle) with a wind shield, rocks or similar which may cause overheating or damage to the stove and cartridge/fuel bottle. Overheating a gas cartridge or liquid fuel bottle in this way is highly dangerous.

Fuels and performance

Jet 45 (0.45mm)

• Primus cartridge gas (propane/butane mix) is the ideal fuel for the MultiFuel EX stove. The fuel is very easy to use, normally requires no priming, and is efficient, environmentally friendly and clean (no soot). Minimum maintenance and cleaning are required.

Jet 37 (0.37mm)

• Primus PowerFuel, high quality white gas (MSR® White Gas/ Coleman® Fuel) affords clean combustion and leaves practically no deposits in the fuel system.

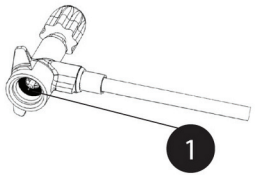
• Vehicle petrol should be used only in exceptional cases since it contains additives which are harmful to your health and also leave deposits in the fuel system.

• For health reasons, leaded petrol should never be used. Jet 28 (0.28 mm)

• Although kerosene is available worldwide, it creates more soot, is more difficult to prime and necessitates frequent cleaning.

• Diesel oil may be used if no other fuel is available. Diesel oil burns with a very sooty flame, talces a long time to preheat and necessitates frequent cleaning.

Fig 1



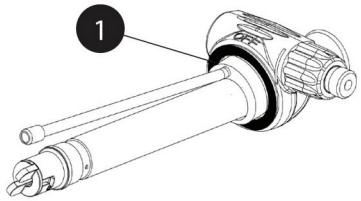


Fig 2

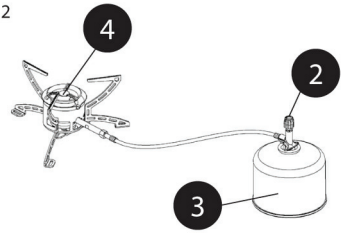


Fig 3

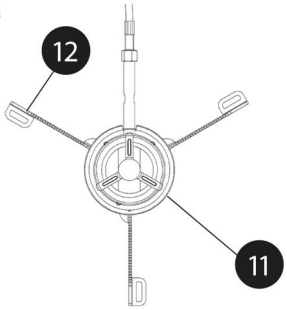


Fig 4

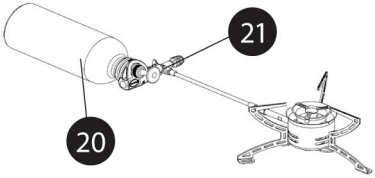
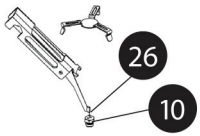
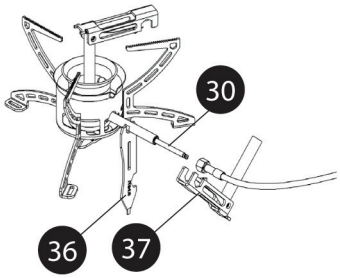


Fig 5





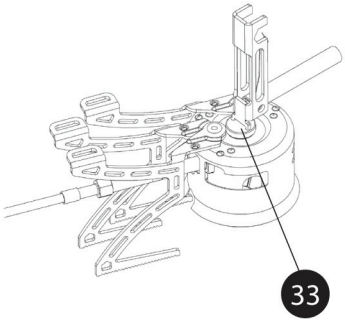
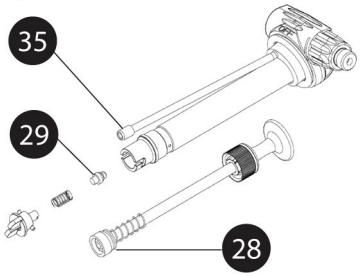


Fig 6



1. Introduction

1.1 This appliance is designed for use only with Primus 2202, 2206 and 2207 gas cartridges containing propane/butane gas mixtures or Primus liquid fuel bottles for white gas, Primus PowerFuel, (MSR® White Gas/ Coleman® Fuel), unleaded petrol, paraffin and other, equivalent fuels.

1.2 Any attempt to fit another type of gas cartridges or liquid fuel bottle may be dangerous. This may result in leakage, leading to injury or death.

1.3 Gas consumption: 180 ph / 8,000 Btu/h (approx. 2.3 kW) at 1 bar pressure. (Canada: Gas: 12000 Btu/h, white gas/kerosene 8000 Btu/h)

1.4 Jet size: 0.45 mm for Primus disposable cartridges. Jet size: 0.37 mm for white gas Primus PowerFuel, (MSR® White Gas/ Coleman@ Fuel) and unleaded petrol. Jet size: 0.28 mm for kerosene and similar fuels.

1.5 The appliance complies with EN 521, Z21.72b-2002/CSA 11.2b-2002 and CSA B140.9.2-1975. The CE approval (EN 521) regards only LP Gas.

1.6 **Ensure at all times that the hose between the cartridge and stove is straight, and cannot come in contact with the flame or hot gases.** Ensure that the hose is not twisted or subject to abrasion.

2. Safety information (fig. 1)

2.1 Ensure that the appliance and pump seals (1) are in place and in good condition before fitting the gas cartridge or liquid fuel bottle.

2.2 The appliance may be used outdoors only. NEVER light or use the appliance in an unventilated space, indoors, in a tent, in a vehicle or In any other enclosed area.

2.3 The appliance must be operated on a level surface.

2.4 Ensure that no flammable materials or spilled fuel are present in the vicinity of the appliance (see 4.8.6 and 6.8.6).

2.5 Always fit or replace the gas cartridge/ liquid fuel bottle in a safe place. This should be done outside only, away from possible sources of ignition, such as naked flames, pilot lights and electric fires, and well away from other people.

2.6 In the event of a leak from your appliance (as indicated by a smell of gas, white gas etc.), remove the stove immediately to a well-ventilated location outdoors, away from possible sources of ignition, where the leakage can be investigated and corrected. Checking the correct operation of the appliance when using cartridge gas should only be carried out outdoors. **NEVER** check for leaks with a naked flame, use soapy water.

2.7 Never use an appliance with damaged or worn seals. Never use a leaking, damaged or malfunctioning appliance.

2.8 Never leave the applance unattended when lit.

2.9 Do not allow pans to boil dry.

3. Handling the appliance

3.1 Be careful not to touch the hot parts of the appliance during or after use.

3.2 Storage: Always unscrew the cartridge or liquid fuel bottle from the appliance when not in use. Store the cartridge or bottle In a safe, dry place away from heat.

3.3 Do not misuse the appliance, or use it for any purpose other than that intended.

3.4 Handle the appliance with care. Do not drop it.

4. Assembling and operating the appliance with a gas cartridge (fig. 2 and 4)

4.01 **It is absolutely essential that the fuel line be completely clear of liquid fuel when cartridge gas is used, otherwise a dangerously high flame will result! (See 6.8.7 for instructions on how to drain the fuel system.) Also ensure that a 0.45 mm jet is installed.**

4.1 Ensure that the shut-off valve (2) are fully closed (by turning the knob fully clockwise).

4.2 Keep the cartridge (3) upright when fitting it to the valve. 4.3 Place the valve squarely on top of the cartridge (as shown in Fig .2).

4.4 Screw the cartridge carefully into the valve until it meets the O-ring, taking care not to cross-thread the cartridge. **Hand-tighten only. Do not over-tighten, otherwise the cartridge valve may be damaged.**

4.5 Ensure that the gas seal is tight. Carry out checks outdoors. **NEVER** use a naked fame to check for leaks. Apply warm, soapy water to the joints and connections, and observe for leaks in the form of bubbles around the suspect area. If in doubt, or if an escape of gas can be heard or smelled, do not attempt to light the appliance. Unscrew the cartridge and contact your local dealer.

4.6 Swing the legs (pan supports) (12) into position in the wind shield (11).

4.7 The stove is now ready for use.

4.8.1 Aways place the appliance on a steady surface. Ensure that the hose is fully extended, and that it is run straight between the cartridge and stove. Keep the cartridge clear of the heat of the appliance.

4.8.2 First turn the shut-off valve (2) counter clockwise and light the burner (4) immediately.

4.8.3 Adjust the flame using the shut-of valve (2).

4.8.4 Affer lighting, keep the appliance upright and do not move it around. A high flame may occur if the appliance has not been preheated fully or if it is moved without care.

4.8.5 After use, close the shut-off valve (2).

4.8.6 A minimum clearance must be maintained with flammable materials. The minimum permissible clearance between the appliance and ceiling, and between the appliance and the nearest, wall, is 1250 mm. **These minimum clearances must be observed to prevent a fire hazard.**

5. Changing the cartridge

5.1 Close the shut-off valve (2) fully. Ensure that the fame is extinguished and that there is no other fame source in the vicinity. Change the cartridge outdoors away from other people. Unscrew the cartridge tom the valve and replace the O-ring seal if cracked or worn. Avoid cross-threading by placing the valve squarely on tile cartridge thread, and hand-tighten only as described in section 4.

6. Assembling and operating the appliance with liquid fuel (figs. 3 and 4)

6.01 The appliance is delivered with three jets. Jet 45 is for cartridge gas, jet 37 for white gas and unleaded petrol, and jet 28 for kerosene, diesel oil and similar fuels. Ensure that the correct jet is installed.

6.02 Fill a Primus fuel bottle to the fillng mark with liquid fuel. **NOTE!** Never overfill the bottle!

5.1 Ensure that the shut-off valve (2) are fully closed (by turning the knob fully clockwise). 82 Screw the pump (21) into the fuel bottle (20).

8.3 Screw the fuel pump swivel coupling (22) carefully into the valve until it meets the control valve O-ring (as shown in Rg. 3). Be careful not to cross-thread the connection. **Hand-tighten only - overtightening will damage the connection.**

6.4 Swing the legs (pan supports) (12) into position in the wind shield (11).

6.5 Pump about 20 full strokes, or more if the fuel level is below the filling mark on the fuel bottle.

6.6 Place the fuel bottle on a firm, level surface with the text 'ON' the fuel pump facing upward.

6.8.1 Always place the appliance on a steady surface. Ensure at all times that the hose between the cartridge and stove is straight, and cannot come in contact with the flame or hot gases. **Ensure that the hose is not twisted or subject to abrasion. Keep the fuel bottle away from the heat of the appliance.**

6.8.2 Open the shut-off valve (2). Allow fuel to spray from the jet for about 2 seconds before closing the control. If using kerosene or diesel, or if the weather is cold and windy more fuel will be required for preheating. In this case, allow fuel to escape for 4-6 seconds.

6.8.3 Check for leaks at the shut-off valve, fuel pump, jet, fuel hose and fuel line. **DO NOT USE THE APPLIANCE IF LEAKS ARE PRESENT.**

6.8.4 Light the priming pad. **DO NOT LEAN OVER THE APPLIANCE WITH YOUR HEAD OR BODY!** The priming pad will now burn for about 40 seconds if white gas is used, and for longer if kerosene or diesel is used or if the ambient temperature is low. Open the shut-off valve (2) slowly (by honing counter clockwise) when the fuel in the priming pad begins to run out, but before the flame has expired completely. If the appliance burns with a yellow or an unstable flame, priming has been insufficient. Try closing the shut-of valve (2) somewhat until a steady, blue flame is established and allow the device to burn at low power for a while to heat up. If the stove still cannot be operated at full power, the only course is to turn it off, allow it to cool fully and repeat the priming procedure for a longer period using more priming fuel. Remember also that the stove must be shielded from the wind during this procedure.

6.8.5 After lighting, keep the appliance upright and do not move it around. A high fame may occur if the appliance has not been preheated fully or if it is moved without care.

6.8.6 A minimum clearance must be maintained with flammable materials. The minimum permissible clearance between the appliance and ceiling, and between the appliance and the nearest wall, is 1250 mm (48 inches). **These minimum clearances must be observed to prevent a fire hazard.**

6.8.7 To turn the appliance off and empty the fuel system, turn the fuel bottle over so that the 'OFF' on the fuel pump is facing upward. When the flame has been extinguished and air is flowing through the jet, close the shut-off valve (2) by turning the knob fully counterclockwise. Note! This procedure will take about 1 minute. Allow the appliance to cool before disassembling it.

6.8.8 **NEVER** relight a hot appliance. Hot parts may vaporise the liquid fuel and cause a dangerous 'fireball'.

7. Maintenance

7.01 When using liquid fuels, the jet should be cleaned regularly for optimum, trouble-free operation. With extended use of liquid fuel, Of fuel of poor quality, the fuel pipe in the stove (30) can need cleaning, see section 7.5.

7.1 Cleaning the jet

Close the shut-off valve (2) and gas control (5), and unscrew the cartridge or fuel bottle.

7.2 The Jet (10) can be cleaned in situ or when unscrewed from the appliance.

7.3 Clean the jet using the cleaning needle (26) supplied with the appliance.

7.4 Refit the jet and screw it home securely to ensure a good seal. Fit a Primus cartridge for added safety and check the joint with warm soapy water. The appearance of bubbles indicates that the joint is not sufficiently tight.

7.5 Cleaning the fuel pipe (Fig .5)

Disconnect the hose using multitools 36 & 37. Use tool 37 to unscrew the connecting nut and tool 36 to hold the fuel pipe. The fuel pipe can then be cleaned by turning the centrally positioned rod (30) 4-5 times forwards and backwards (using tool 36 if required).

7.6 Fuel pump (Fig. Sj

It the pump does not pressurise the fuel bottle, stretch the leather pump gasket (28) slightly and lubricate it with Primus leather oil (saliva or a mineral-based oil). Unscrew and withdraw the pump rod. Rub oil into the gasket until it becomes soft and pliable. If the pump still fails to pressurise the fuel bottle, replace the gasket or proceed to 77.

7.7 If the pump falls to maintain the pressure in the fuel bottle, clean and chalk the non-return valve (29). Remove the valve and wipe the rubber gasket with a cloth. Refit the valve.

7.8 Routine service and maintenance

Always ensure that the seats and O-rings are correctly seated and are in good condition. Carry out this check each time before assembling the appliance. Replace the seals if damaged or worn. New seals are available from your local dealer

7.9 Multi-tool

The tool is used for removing and fitting the jet (10), locknut (31), hose connection (32), bottom screw (33) and priming pad lock (34). See Fig. 5.

8. Hints and troubleshooting

Primus cartridge gas (propane/butane mix) is the ideal fuel for the MultiEuei EX stove. The fuel is very easy to use, normally requires no priming, and is efficient, environmentally friendly and clean (no soot). Minimum maintenance and cleaning are required.

Primus PowerFuel, high quality white gas (MSR® White Gas/ Coleman® Fuel) affords clean combustion - although not as clean as cartridge gas - and leaves practically no deposits in the fuel system.

The stove is equipped with fuel filters in the pump hose (35) This filter normally require no other attention than replacement as required. Taking care to avoid damage to the sealing faces. Carry out leak testing as described In 4.5.

The factors which govern the output of stoves running on cartridge gas are listed below, with hints on how to increase (or maintain) output in cold weather.

Factors affecting heat output

- Quantity of gas in cartridge
- Temperature of ambient air
- Initial temperature of gas

How to increase output in cold weather

- Preheat the cartridge by placing it upright in 1” (2.5 cm) of warrn water.
- Preheat the cartridge with your hands or place it inside your jacket before connecting it to the appliance.

Possible causes of reduced power

- Insufficient pressure in liquid fuel bottle
- Incorrect jet fitted
- Jet or jet filter blocked
- Fuel filter blocked
- Appliance not shielded from wind etc.

Possible causes of unstable, yellow flame

- insufficient priming
- incorrect jet
- Appliance not shielded from wind etc. Use Primus windscreen and heat reflector or move stove to sheltered location.
- Excessive pressure in fuel bottle due to excessive pumping. Reduce power by closing gas control.
- Old or poor-quality fuel

9. Service and repair

9.1 Return the appliance to your local retailer if a fault cannot be corrected using these instructions.

9.2 Never attempt any other maintenance or repair.

9.3 Never modify the appliance since this may make it unsafe.

9.4 The stove has been approved with a factory-fitted hose. For this reason the hose must NEVER be replaced by a type other than the original.

10. PARTS AND ACCESSORIES

10.1 Use only Primus brand parts and accessories. Take care to avoid touching hot parts when filling parts and accessories.

10.2 Replacement cartridges; Use only Primus 2202,2205 or 2207 propane/butane mix gas cartridges with this appliance. Replacement fuel bottles: Use only Primus 721950 and 721960 fuel bottles with this appliance.

10.3 Parts are available from your Primus dealer.

For your safety

If you smell gas
1. DO not attempt to light appliance
2. Extinguish any open flame
3. Disconnect from fuel supply

DO not store or use gasoline or other liquids with flammable vapours in the vicinity or any other appliance

DANGER: CARBON MONOXIDE HAZARD
This appliance can produce carbon monoxide which has no odour. Using it in an enclosed space can kill you. Never use this appliance in an enclosed space such as a camper, tent, car or home.

WARNING: Keep stove area clear and free from combustible materials, gasoline and other flammable vapours and liquids

WARNING: See too that no obstruction of combustion or ventilation occur.

WARNING: See too that the flame on the appliance is steady. The flame shall always leave the stove straiaght upwards. Note. Wind may press the flame down under the burner, if that happens stop the stove immediately and move it to a wind protected area.

WARNING: When the stove is in storage, the gas canister has to be disconnected.

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